STATE OF MAINE

COMPREHENSIVE STATE MASTER PLAN

FOR

ELECTRONIC DATA PROCESSING

DEPARTMENT OF FINANCE AND ADMINISTRATION

BUREAU OF CENTRAL COMPUTER SERVICES

MARCH, 1977

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The history of electronic data processing through the Fall of 1968 was published as an introduction in the "Plan for a State Computer Center" prepared by Systemation Incorporated for the State of Maine Department of Finance and Administration in December of 1968. That "introduction" or history is repeated as Appendix A to this document for those wishing to familiarize themselves with events leading up to early 1969.

The "large mass-storage device" referred to in the 1968 Systemation Plan was added to the IBM S/360 Model 40 installed in the Bureau of Accounts and Control in early 1969. This device, an IBM 2321 Data Cell and telecommunications terminals and controllers were added to accomodate the Motor Vehicle Division's on-line driver licensing and driver history inquiry, update, and data entry system.

About this same time the Liquor Commission installed the first inventory and price control system for sales authorizations and shipments from the warehouse. In 1969 the Department of Health and Welfare received a Federal Grant as a Model State for a three-year period. The purpose of the Model State Project was to develop a comprehensive computerized system that could be transferred to other States of like size and administrative structure. Although the effect on computer equipment was not immediately apparent, the Model State Project was to have a significant effect on future hardware requirements in the State of Maine.

The second on-line application developed was the Income Tax System, which came into being as a result of the 1970 law. An RCA Series 70/45 was installed in the Bureau of Accounts and Control in April of 1970 to handle the Income Tax Application. From April 1970 to late Fall 1970 the RCA System was gradually upgraded to the point where it replaced the IBM 360/40. At the point when the IBM equipment was removed from the Bureau of Accounts and Control the RCA System had been upgraded to include two RCA Model 45 Computers, twelve Tape Drives and three Printers. Disk capacity was significantly upgraded to sixteen 590 Disk Drives - effectively two times as many disks as the IBM System had.

In September of 1970 the Commissioner of Finance and Administration found it advantageous for State data processing as a whole to remove control of the computer from the Bureau of Accounts and Control which was a major user of the very same equipment it was trying to operate on a service bureau basis. At that time the Commissioner entered into a "facilities management" contract with a consultant firm to operate the new computer center. From September of 1970 until April of 1971 Information Labs managed the newly-founded Central Computer Services through the Bureau of Accounts and Control. On April 12, 1971 Central Computer Services was formed into an administrative unit within the Department of Finance and Administration. Although the Accounts and Control facility was fairly well established and the User Community had grown to several agencies, the combination of new governmental status and the conversion of IBM Equipment to RCA Equipment caused some very trying circumstances for Users and Operators alike. Information Labs was, however, able to put together the basic service bureau that we know today. The new administrative unit was set up with two sections, an Operations function to handle the computer facilities and a Systems and Programming function to perform analysis and programming work on a consulting basis to User Agencies.

In July of 1971 the Commissioner of Finance and Administration hired a Director and a Deputy Director of Central Computer Services. Their charter was to put together

an efficient, well-organized agency that could supply the State with the computer resources that were required.

As User Agency applications grew equipment growth within Central Computer Services was considerable. A good portion of that growth was caused by the addition of the Health and Welfare on-line systems and their case master files. The initial medicare system run on the IBM 360/40 was upgraded by the Department of Health and Welfare to the capacity that it has today. As Health and Welfare grew more adept in developing new systems more money was granted by the Federal Government for Model State Projects. Overall User Agency growth caused installation size to increase to two RCA System 6's which had configured between them 786K bytes of Memory. Tape Drives numbered fifteen - twelve were 70-442 Tape Drives - three were 70/445 Tape Drives - two Card Readers, and one Card Punch. As the growing demand for hard copy output increased three RCA Model 243 Printers were installed along with one RCA Model 242 Printer. Disk growth was from the initial four RCA Model 564 Disk Drives to forty RCA Model 590 Disk Drives. The Department of Health and Welfare (now Human Services) on-line system applications increased the Central Computer Services' communications network to two RCA Series 70/668 Communications Controllers and over ninety terminals. In late 1971 Central Computer Services realized that it needed a larger, more powerful computer system to handle the future workload of the State of Maine. Also, in late 1971 RCA announced that it would no longer be in the computer business. It was decided at that time to request proposals for another computer system to replace the RCA 6's. In February of 1973 a Honeywell System was installed that enabled Central Computer Services to utilize the full operating system concept. The initial installation was a Honeywell 6000, Model 60 Processor with configured memory of 192K words. Disk storage was eight Model 190 Disk Drives and six Model 180 Disk Drives. Also installed initially was one Model PRT 301 Printer, and one Model CRZ 201 Card Reader, one Model CPZ 201 Card Punch, and six Model MTH 501 Tape Drives. The first Honeywell Datanet 355 Front End Processor was installed to handle the ever-growing communications network. As the RCA was gradually phased out the Honeywell System was upgraded to the point where it could handle the State of Maine's growing workload. Memory was initially upgraded to 256K words and eventually upgraded in September of 1974 to 384K words. Tape Drive capacities grew from six to twelve Tape Drives. Disk Drive growth was rapid primarily due to the growth of on-line applications - most notably these new applications were Human Services' Budget System, the Legislative Bill Status System, the Watercraft Licensing System, the addition of Vehicle registration information to the Motor Vehicle files and further development in case load work on the Human Services' Social Service Delivery System. Disk Drives went from the initial eight Model 190 Disk Drives to thirty.

Printing capacity tripled as new systems came on with further requirements of hard copy output. Most notable among these was the Lottery Commission's Lottery Ticket Prints and the growing demand for hard copy output for Human Services' File Information. Telecommunications processing grew to the extent where in September of 1974 it was necessary to install the second Datanet 355 Front End Processor.

From July 1971 through 1976 Central Computer Services has expanded its customer base from approximately fifteen User Agencies to well over forty. Also, within that time communications on-line system growth has been increased from two systems to nine, not counting time-sharing and remote job entry Users. Overall growth for the period averaged about fifteen percent per year. As a direct result of the great amount of growth in the State of Maine data processing community, it was necessary to upgrade the installed computer to a dual Processor Computer System in September of 1975.

Legislation enacted by the One Hundred and Seventh Legislature and effective October 1, 1975 established Central Computer Services as a Bureau within the Department of Finance and Administration. In keeping with a statutory mandate to effect the centralization and consolidation of existing data processing equipment, Central Computer Services negotiated an agreement with the Department of Transportation to operate their general purpose Computer (an IBM S/370 Model 135 acquired in early 1973) on a consolidated or shared basis. In September of 1975 Central Computer Services assumed operating responsibility for this computer system to facilitate training of Operators and to make the system more available to non-DOT Users. When DOT moved to their new quarters in June of 1976, Central Computer Services assumed full responsibility for the operation of the IBM S/370 Computer which now has been moved into the same Computer Room occupied by the Honeywell Dual Processor Computer System.

Although there has been at least one extensive effort to consolidate the only other general purpose Computer installation in Maine Government - the one in the Department of Manpower Affairs - that facility operates today on a dedicated basis. An RCA 70/35 Computer installed at Employment Security was replaced with an RCA Series 2 in July of 1972. Negotiations to purchase that Computer and its associated peripheral equipment were completed in September of 1975 (retroactive to July 1st) with the understanding that this computer system would meet the needs of Maine's Employment Security Agency for at least five years. In April, 1976 - under a Federal Department of Labor mandate to upgrade - Employment Security requested permission to lease an RCA Series 6 Computer from Sperry-Univac. This Computer is currently scheduled to be installed in December of 1976 or January of 1977.

1. Equipment Installation

Excluding special purpose and/or limited usage minicomputer installations (such as DOT's "Maine Facility" in Pittsfield and Public Improvement's "environmental control system" in Augusta), there are three general purpose computer installations in Maine State Government. Table A on Page II-2 contains factual information about the Computer Equipment in these installations. Two Computers are located within a single installation in the State Office Building and are operated by Central Computer Services. One is located in the new Department of Transportation State Office Building and is operated by DOT while another is located in the Employment Security Office Building on Union Street.

While the use of communications terminals to enter data and update records is growing rapidly, off-line keying of data is still the major process used to computerize Maine's data. Key to Disk/Tape units are nearly as numerous as Keypunch Machines, owing primarily to their greater speed, efficiency, and flexibility. Table B on Page II-3 describes the State's off-line data entry equipment installations.

The majority of the State of Maine's Computer Terminals are located in the Greater Augusta area. However, Human Services and Motor Vehicle (including Maine State Police and Bangor Police) terminals are located throughout the State. The extent to which Maine State Government's daily business is dependent on Computers and their terminals may be readily seen by examining Table C on Page II-4.

TABLE A. General Purpose* Computer Systems Installed as of December 1, 1976.

Name of Agency	INSTALLATION TYPE: Central	INSTALLATION TYPE: Dedicated	SYSTEMS CONFIGURATION: CPU: Mfgr.	CPU: Model	CPU: Mem. in Char.	NUMBER OF PERIPHERALS: Tape Drives	Card Rdr./ Pch.	Printers	Plotters	DISKS: Mfg.	Model	Total Capacity in Char.	Leased	Purchased
CCS	x		HISI	Dual H-6060	2.3M	12	2/1	3	0	HISI	190	3.5B		x
CCS	x		IBM	370/135	480K	6	1/1	1	0	IBM	3330	1.0B	x	
Manpower Affairs		x	RCA	2	256K	8	1/1	2	0	RCA	590	405M		x
DOT		x	IBM	1130	16K	0	1/1	1	1	IBM	2321	5M		x

Abbreviations Used: HISI = Honeywell Information Systems, Inc.
IBM = International Business Machines
RCA = RCA Computers are presently sold and serviced by SPERRY/UNIVAC Computer Systems.
K = Thousands of characters
M = Millions of characters
B = Billions of characters

*The IBM 1130 is restricted primarily to engineering use within the Department of Transportation. It is a small computer system designed to work best in scientific/engineering application areas and should only be considered a general purpose computer system in that context.

TABLE B. Off-Line Data Entry Equipment Installed as of July 1, 1976.

Name of Agency	KEY TO CARD* Mfgr.	Model	Number Installed	KEY TO DISK/TAPE Mfgr.	Model	Number Keystations	KEY TO TAPE Mfgr.	Model	Number Installed
Accts. & Ctl.	IBM	129	13	-	-	-	-	-	-
Alco. Bev.	-	-	-	-	-	-	HIS	702	1
CCS	IBM	129	5	-	-	-	-	-	-
Education	S/U**	1710	4	-	-	-	-	-	-
Env. Prot.	S/U	1710	1	-	-	-	-	-	-
Human Services	IBM	129	5	HIS	Keyplex	20	-	-	-
IFW-Plng.	IBM	129	4	-	-	-	-	-	-
Lottery	IBM	129	2	-	-	-	-	-	-
Manpower) Affairs) Motor) Vehicle)	IBM	029	2	S/U	Cade	16	-	-	-
Public Safety	IBM	026	1	S/U	Cade	14	-	-	-
Retirement	IBM	129	3	-	-	-	-	-	-
Taxation	S/U	1710	1	-	-	-	-	-	-
Transportation	IBM	129	2	-	-	-	-	-	-
			11	-	-	-	-	-	-
TOTAL			54			50			1

* Where mixed manufacturers and/or models are installed, the make and model of the predominant machine is listed.

** S/U = Sperry/Univac Computer Systems

TABLE C. Telecommunications Equipment Installed as of July 1, 1976

Name of Agency	TERMINALS Mfgr.	Model	Type	Number Installed	MODEM Mfgr.	Model	Number Installed
Accts. & Ctl.	HIS	765	Video	2	Direct	Connect	
Budget	HIS	765	Video	1	"	"	
CCS	HIS	765	Video	2	"	"	
CCS	GE*	300	Type-writer	2	"	"	
CCS	IBM	2741	Type-writer	1	BELL	103A	2
Education	GE*	115	RJE	1	BELL	4800	2
Env. Prot.	HIS	785	Video	2	BELL	4800	2
Executive	HIS	775	Video	1	HIS	6925	2
Human Services	HIS	765	Video	87	BELL	202D	36
" "	GE*	115	RJE	1	BELL	4800	2
IFW-Plg.	CTSI	Execuport	Type-writer	1	BELL	103A	1
IFW-Watercraft	HIS	765	Video	2	BELL	202D	2
Legislature	HIS	785	Video	3	HIS	6925	4
"	HIS	775	Video	3	HIS	6925	2
Mental Health	HIS	765	Video	4	BELL	202D	5
Motor Vehicle	HIS	775	Video	21	HIS	6925	4
" "	HIS	765	Video	17**	BELL	202D	16
Personnel	CTSI	Execuport	Type-writer	1	BELL	103A	
Taxation	HIS	775	Video	15	HIS	6925	4
Taxation	HIS	765	Video	3	Direct	Connect	
Transportation	CDC	37801	RJE	1	Penril		3
Transportation	IBM	2741	Type-writer	1	BELL	103	2
Transportation	CDI	Tele-Term	Type-writer	2	BELL	103	1

TOTALS: Video - 163
Typewriter - 8
RJE - 3

*Currently sold and serviced by Honeywell.
**Includes six (6) terminals at State and local police Communications Centers.

General Note 1: All telecommunications equipment attached to the HIS Dual-6060 computer system is interfaced through two (2) HIS Datanet 355 Front-end Communications Processors with attached High Speed Line Adapters.

General Note 2: All telecommunications equipment attached to the IBM S/370 Model 135 is interfaced through an Integrated Communications Adapter.

Abbreviations used:
HIS=Honeywell Info. Sys.
GE=General Electric
IBM=International Bus. Mach.
CTSI=Computer Transceiver Sys., Inc.
CDC=Control Data Corp.

2. *EDP Personnel and Major Applications Systems.*

Appendix B contains lists by agency of the following information:

a.) By classification title, the number of positions existing in each agency on or about December 1, 1976.

b.) By application area, summary information on the major applications existing in each agency as reported in July of 1976.

A very careful examination of these lists should lead the examiner to two not very surprising conclusions, namely:

a.) In government just as in business and industry, the people costs of electronic data processing are equalling or exceeding the hardware (equipment) costs. This is not solely due to the rising cost of labor. In fact, technological advances and centralization have significantly reduced the per unit cost of computer processing and data storage thereby contributing as much to the changing ratio between labor and equipment costs as rising labor costs have.

b.) On profile, Maine is typical of other state governments. Some agencies are highly computerized and capable of developing and operating complex application systems. Others have little or no expertise in the use of computers and are not, in fact, making use of them. Most State agencies lie on the continuum between these two extremes and are making use of computers within the limits of their know-how and their fiscal and/or manpower resources.

An integrated fiscal management system, a vehicle inventory and maintenance system, a parts/supplies inventory management system, and an integrated payroll/personnel information system are examples of applications areas that would benefit many agencies. Some of these systems can perhaps be developed utilizing existing systems as a base - for example, the DOT Fleet Management System, the MH&C Capital Assets Accounting System, and the Human Services Budget System. Others would have to be transferred in from other States or developed from scratch.

3. *Summary of classified EDP Positions* - Statewide (Full-Time only)*

	CENTRAL COMPUTER SVS.				ALL OTHER STATE AGENCIES		
Class Title	No. Filled Positions	No. Vacant Positions	Total No. Positions	Hay Pay Grade	No. Filled Positions	No. Vacant Positions	Total No. Positions
Dir., CCS	1	0	1	34	0	0	0
Dep. Dir., CCS	1	0	1	31	0	0	0
Chief of D.P. & Sys.	0	0	0	28	2	0	2
Sys. & Progmg. Mgr.	1	0	1	28	0	0	0
Anal./Prog. III	0	0	0	27	1	1	2
Sys. Sftw. Spec. II	1	0	1	27	0	0	0
Comp. Oprns. Mgr.	1	0	1	26	0	0	0
Anal./Prog. II	5	2	7	25	20	10	30
Anal./Prog. I	3	0	3	22	17	5	22
Sr. Comp. Oprns. Supvsr.	0	1	1	22	0	0	0
Sys. Sftw. Spec. I	1	1	2	22	1	1	2
Data Entry Sys. Mgr.	0	0	0	19	2	0	2
Sr. Comp. Prog.	0	0	0	19	0	1	1
Comp. Oprns. Supvsr.	4	0	4	18	2	0	2
Comp. Programmer	4	1	5	17	16	3	19
Data Entry Supvsr.	1	0	1	16	7	1	8
Tab.Equip. Supvsr.	0	0	0	16	2	0	2
Sr. Comp. Opr.	2	1	3	15	1	0	1
Comp. Opr.	5	2	7	13	5	1	6
Data Ctl. Lib. II	1	0	1	12	1	0	1
" " Spec.	1	0	1	12	1	0	1
Comp.Prog. Aide	0	2	2	9	0	4	4
Data Ctl. Clerk II	0	0	0	9	2	2	4
Data Entry Spec.	2	0	2	9	42	2	44
Comp. Opr. Aide	5	0	5	7	3	3	6
Data Ctl. Lib. I	1	1	2	7	0	0	0
Data Entry Opr. II	1	0	1	7	33	15	48
Tab. Equip. Opr. II	1	0	1	7	0	0	0
Data Ctl. Clerk I	0	0	0	5	1	0	1
Data Entry Opr. I	0	0	0	5	13	6	19
Tab. Equip. Opr. I	0	0	0	4	1	1	2
TOTAL	42	11	53		173	56	229

**Approximately twelve Accounting, Secretarial-Typist and Clerical Personnel dedicated to Information Systems work throughout State Government are not included in this summary.*

4. *EDP Expenditures and Source of Funds.*

Over the past three years, expenditures for electronic data processing have increased by twelve percent (12%) annually on the average. Some of this increase is attributable to better reporting but most of it is due to new processing requirements, increased volumes, and the rising cost of labor and supplies. Total E.D.P. expenditures reported have increased from $4,003,000 in fiscal 1974 to $5,079,000 in fiscal 1976.

During the same period, Central Computer Services' expenditures have increased from $1,445,000 to $2,151,000.

The 1974 figure is misleading in that certain terms and conditions of the purchase agreement with Honeywell deferred about $100,000 in principal and interest payments until 1981. More than two out of every three dollars currently expended by Central Computer Services is applied to the purchase, rental, and maintenance of computer equipment (commonly referred to as "hardware").

While the total amount expended statewide increased by one million dollars or about twenty percent (20%), the ratio of EDP expenditures to grand total State Budget decreased from nearly seven-tenths of one percent (0.69%) to just over six-tenths of one percent (0.62%). The grand total State Budget consists of general fund, special revenue fund, and Federal fund expenditures made under the administrative control of Maine State Government.

Data collected with respect to source of funds being expended for electronic data processing contained estimates in several instances as many agencies do not record source of fund information with their expenditure detail. The best information available indicates the following:

Fund	*% of EDP Expenditure*
Federal	*36.4%*
General	*31.7%*
Special Revenue	*27.6%*
Other	*4.3%*

Less than one out of every three dollars expended for electronic data processing in Maine State Government comes from the General Fund, which constitutes forty-two percent (42%) of the grand total State Budget. More than one out of every three dollars expended for EDP comes from Federal sources which comprise about thirty-one percent (31%) of the grand total State Budget.

The table on the following page gives more detailed information about the expenditures reported by State agencies for Fiscal Year 1976. It should be noted that most agencies do not allocate space, supplies, and special forms expense to E.D.P. units existing within the agency. Lack of this detailed information does not, however, significantly distort the overall view depicted by the table.

1976 FISCAL YEAR ACTUAL EDP EXPENDITURES

Agency	Paid to CCS	Hardware	Personnel	All Other	Total
Accounts and Control	$ 205,183	$ -	$ 143,062	$ -	$ 348,245
Alcoholic Beverages	19,400	3,312	7,093	-	29,805
Budget	33,041	-	-	-	33,041
Conservation	3,076	-	-	-	3,076
Education (DES)	53,122	4,800	110,476	5,200	173,598
Environ. Prot.	21,247	5,920	18,907	3,390	49,464
Human Services	874,841	850	326,068	192,000	1,393,759
Inland Fish & Wildlife	33,793	6,909	60,778	-	101,480
Legislature	61,938	-	-	-	61,938
Lottery	54,031	8,352	13,312	-	75,695
MLEPAA	8,067	-	26,500	-	34,567
Manpower Affairs	17,079	103,648 ***	404,552	23,515	548,794 ***
Mental Health	62,585	16,096	174,951	16,524	270,156
Motor Vehicle	372,133*	30,000	223,600	-	625,733*
Nursing Board	4,078	-	-	-	4,078
Personnel	**	-	-	**	**
Public Safety	8,828*	5,800	18,000	-	32,628
Retirement	42,665	2,136	8,100	-	52,801
State Planning	7,565	1,944	22,700	-	32,209
Taxation	183,448	4,080	153,000	-	340,528
Transportation (DOT)	29,563	410,400	364,619	7,346	811,928
Miscellaneous	21,690	-	-	33,601	55,291
	$2,117,373	$604,247 ***	$2,075,718	$281,576	$5,078,814 ***

*Public Safety and local police access to Motor Vehicle files are included in Motor Vehicle figures. Motor Vehicle is then appropriately reimbursed by these Users.

**Since Personnel has no D. P. Budget, all efforts have been jointly financed by Mental Health and Corrections, DOT, Human Services, DECS, Conservation, and Finance and Administration on a cooperative basis.

***These figures do not include $180,000 paid to Sperry/Univac by the Employee Security Commission to purchase outright equipment that was previously leased under a lease with equity accrual contract.

1. Agency Plans

Central Computer Services decided to focus on the remainder of Fiscal Year 1977 and the forthcoming fiscal biennium for planning purposes. It became obvious during the interview process that most-if not all-agency planning is budget-centered and does not go beyond the next fiscal biennium . Thus, it is doubtful that a five-year master plan for data processing could be prepared as a practical matter unless the various agencies of Maine State Government adopt a different approach to planning. Longer range planning is essential to successful development and implementation of multi-agency systems such as those mentioned in the last paragraph of Page II-5.

It is important that any reader of this report understand that the following plans represent the current "best guess" of the agencies involved as to what is likely to occur over the next two years. Budgetary actions and program priority decisions of either the Legislative Branch or the Executive Branch and/or Federal fund availability may greatly alter those plans. Similarly, the ability to recruit and retain qualified EDP personnel and the ability of each agency to support EDP systems development with other (non-EDP) human and fiscal resources will eventually determine each agency's accomplishments with respect to plan.

A. Accounts and Control

While no major new systems are envisioned by this agency, some major enhancements to existing systems have been identified. The addition of sick and vacation leave credits, more categories for deductions and further progress toward exception or normalized processing are examples of the changes to be made to the Payroll System. Inclusion of more history data, better back-up for on-line processing and replacement of the ledger card system are envisioned in the Appropriation Accounting area. In the Accounts Payable System, development of a vendor master file to facilitate repetitive payments is a major objective.

B. Educational and Cultural Services (DECS)

Design, development, and implementation of the following systems are currently scheduled during the upcoming biennium: School Bus Inventory (6/77), DECS "MIS" - Forms Management and Data Control (3/78), School Buildings and Facilities Inventory (4/78), Voc-Tech Institute Information System (6/78), and DECS "Budget Control" System (10/78).

Additionally, major enhancements to the School Lunch System to comply with changing Federal regulations and to the Teacher Certification System must be accomplished during the next six months. DECS also hopes to acquire a Computer Based Resource Unit System from the University of Buffalo and make it available as a teacher aid. This system performs curriculum searches and retrieves lists of reference materials and suggested activities.

C. Environmental Protection (DEP)

This agency plans to install a minicomputer to serve as a "switchable" RJE. The primary function of this equipment will be to provide remote access to the U. S. Environmental Protection Agency's "STORET" Water Quality System. Secondary functions will include data reduction and remote access to the Honeywell 6060 at Central Computer Services.

1. C. *Environmental Protection (DEP)*

New applications in development or to be developed include Air Monitoring and Licensing, a Laboratory Management System, and Single Resident Licensing. Enhancements planned to the existing on-line system include more capability for Industrial, oil, and municipal monitoring and provisions for licensing, billing, and tax credit information.

DEP also plans to examine Human Services' Budget Control System and Mental Health and Corrections' Capital Assets Accounting System (CASS) for extension and/or conversion to their use.

D. *Human Services*

This Department's major systems development and implementation effort will be associated with MMIS - Medicaid Management Information System. This system will replace the present claims processing system, but will also provide for federal reporting requirements, more and better management reporting and better fiscal control. Another major effort will provide for a Licensing/ Revenue System for the Division of Health Engineering.

Major enhancements are planned for the Social Services Delivery System, Absent Parent, and Vocational Rehabilitation Systems.

E. *Inland Fisheries and Wildlife*

Most of this Department's efforts over the next two years will be directed toward the addition of data files under MIDAS and the acquisition and implementation of systems from federal government and academic sources. Examples of data files to be added include weather, land use, mammal tagging file, and animal disease information files. Examples of systems to be obtained from the Federal Government are a Population Dynamics Simulator for big and small game species and MAST - Management Allocation and Selection Techniques - a cost benefit analysis system that assists management in optimizing the utilization of fiscal resources.

F. *Legislature*

The One Hundred and Eighth Legislature will be asked to authorize a study encompassing Statutory Retrieval and Bill Drafting system and other aspects of the Legislative process. Should one or more of these be determined feasible and cost effective; purchase, transfer, or design and development would begin with an implementation target date of January 1, 1979.

G. *Manpower Affairs*

Major in-house design and development work will center around the development of a computerized Tax and Contribution System to replace the present manual system and development of a new (replacement) Benefits processing system featuring on-line input and eligibility determination.

Other major efforts will center on compliance with the federally issued ESAP-Employment Security Automation Plan. The main requirements of that plan are the implementation of the federally developed on-line Job Matching System and implementation of the federally developed Basic Support System - a replacement for today's cost accounting and federal reporting (ESARS) systems.

H. *Mental Health and Corrections*

Inventory Control, time reporting and labor distribution, a correctional information system, and a planning data collection and analysis system are the major new computerization efforts to be undertaken over the next two years. Another area presently being worked on is computer support for the Community Mental Health Centers, particularly in the coordination of required State and Federal reporting as well as combining data for analysis.

I. *Motor Vehicle Division, Secretary of State*

The Motor Vehicle Division would like to extend the capabilities of its on-line system to include the capability of capturing transaction data, especially accounting information, at the point of service and provide for computer prepared licenses and/or registrations at the branch office level. The present cash and dealer systems will be replaced with more responsive and more capable systems. In addition, the Driver License Examination process will have computerized scheduling techniques applied and the Examination function will be reviewed for other possible applications of computer technology

J. *Personnel*

Employee and employee history information is presently being computerized as the next step in the development of a Personnel Information System. Once the employee information is complete and integrated with position information, heavy demand for development of analysis and reporting programs or systems is expected from the Governor's Office, the Legislature, the Office of State Employee Relations, and the Bureau of Budget as well as the Personnel Department.

Examination, Certification, and integration of the Personnel Information System with the Payroll and Retirement Systems are also expected to receive attention over the upcoming biennium, provided funds are available.

K. *Public Safety*

In cooperation with the Maine Law Enforcement Planning and Assistance Agency, the State Police plan to install a statewide law enforcement message switching system with NCIC and NLETS interfaces that is minicomputer controlled. This system will also interface with the H-6060 Computer in Central Computer Services for the purpose of accessing Motor Vehicle records. Other new systems that Public Safety hopes to implement over the next two years include a stolen property file; fire, Beano, and inspection licensing; a capital inventory system; time and leave reporting; inspection sticker accounting; and citizens' band usage reporting.

L. *State Planning Office*

The two major projects currently planned by this agency are the establishment of a Town-based data storage and retrieval system utilizing MIDAS and SCORE and the implementation of a Rural Housing Monitoring System.

M. Taxation

This agency plans to continue its computerization efforts by integrating Sales Tax and Property Tax records into the existing Taxation data base and on-line processing system. Major enhancements are planned for the Income Tax Withholding and Individual and Corporate Income Tax portions of the existing Taxation on-line processing system. Significant enhancements to the Excise Tax and Management Reporting programs are also planned.

N. Transportation

DOT has been working for about one year on the development of an Integrated Budget and Accounting System that will be implemented in phases and probably will not be complete before late 1980. Other new development efforts over the next two years are expected in the areas of Capital Inventory Management, Right-of-Way parcel inventories, and Right-of-Way sign permits.

The existing Personnel records and Parts Inventory Systems will be replaced with up-to-date versions possessing greater capabilities. The Parts Inventory System will probably not be completed before 1980.

Major enhancement efforts already underway or expected to begin shortly are concentrating on the Crew Payroll, Fleet Management, Project Manpower and Schedule Control, and Project Financial Control Systems. Before the biennium ends, DOT hopes to start a major enhancement effort on its Highway Network Information System that will be completed by Mid-1980.

O. Other

It is not possible to anticipate and/or gather information concerning all of the other computer system development activity that may take place during the next two and one-half years. Examples of potential areas already identified follow:

- *Automatic Posting and maintenance of Retirement Contributions (Maine State Retirement System).*
- *Earnings Record and Benefits Computation (Maine State Retirement System).*
- *Computerized Public Utility Data Transfer and Analysis System (Maine Public Utilities Commission).*
- *Development of a Fiscal Control System through further development and integration of the Budget and Accounting Systems (Bureau of Accounts and Control and Bureau of Budget).*
- *Fleet Management and Capital Inventory (Department of Conservation).*
- *Computerized Support for Central Licensing (Department of Business Regulation).*

2. Central Computer Services' Plan
Computer Equipment Configuration Plans

Though there will be an additional processing demand on the Honeywell 6060 computer the central processing unit is capable of handling this additional workload, provided sufficient memory and input/output peripherals are attach-

2. *Central Computer Services' Plans*
Computer Equipment Configuration Plans - Cont'd.

ed to it. The processor has the speed to compute the additional work, but to be able to handle this increased demand it has to have more jobs present in its memory. Therefore, in March of 1977 the memory of the Honeywell will be increased from 384,000 words to 512,000 words. This will provide adequate resources for the development and implementation of the Medicaid Management Information System for Human Services, provide for subsequent enlargement of teleprocessing programs by Personnel and Human Services, accomodate any additional small on-line systems required during the biennium plus allow processing of more batch development and production work from 7:00 a.m. until 6:00 p.m. This increase will not only fulfill immediate needs, but should accomodate future growth through and perhaps beyond the two-year cycle.

The increase in demand for disk storage space may require installation of more devices in the Fall of 1977. If so, new announcements in higher capacity and/or lower priced disk units will be investigated to fulfill this need. Users will be asked to purge infrequently accessed files and otherwise optimize their use of disk file space before additional drives are added.

Continued communications growth in present systems and implementation of new systems will require that corrective measures be taken to avoid purchasing another DN 355 Communications Front End Processor. Present terminal growth plans would make this purchase mandatory by July of 1978. The current systems' communications programs will be replaced by modern, more versatile programs that have recently become available. This change will probably take place in the second quarter of fiscal year 1978. Though this new software will solve immediate communications processing problems, the planned addition of lines will eventually exceed the number of physical ports or connectors on the DN 355's. Therefore, different alternatives are being considered. Some alternatives are:

- *Attaching a slow-speed line adaptor to free three to five ports;*
- *Remote concentrators for high usage areas such as Lewiston and Portland which would increase terminal capabilities as well as free five to ten ports;*
- *A special controller in the Computer Center that would have the capability of concentrating communications lines into the Honeywell and also act as a communication controller for the IBM computer.*

Any of these alternatives would be less expensive than an additional Front End Processor, but the actual solution will not be implemented until a cost-benefit analysis has been completed.

There are currently twelve tape drives attached to the Honeywell Computer System and at peak times more drives are needed, but this problem will be alleviated by the addition of memory which will facilitate rescheduling of high tape usage jobs. Therefore, Central Computer Services does not anticipate that additional devices will be purchased even though tape utilization will grow by as much as 20%.

As the utilization of the computers increase the need for more print capability will also increase. This increase will approach the print capacity of the three printers currently in use. This extra print load will not create a great problem, but it will provide an opportunity to take advantage of new technology in high speed, stand-alone printers. Some advantages of devices either currently

2. Central Computer Services' Plans
Computer Equipment Configuration Plans - Cont'd.

available or soon to be available are lower cost of computer paper and forms, high quality printing, more printed data on each page and the possibility of writing on both sides of the paper. Because of the increased workload and new technology by January of 1978 the State should be able to install an off-line printer to replace one of its current printers and create printed reports at a lower cost per line. Central Computer Services has also taken steps to provide access to another new technological development - Computer Output Microfilm (COM). Users having suitable applications may arrange for microfiche printouts and avoid the expense of printing on paper entirely.

Because of new machines available and options opened to the State, the 370/135 with 480K memory will be replaced by a more powerful 370/138 with 512K memory in July of 1977. The existing six tape drives will be replaced by five faster tape drives and the disk drives will be replaced by independently supplied IBM compatible drives with an increase in capacity of 200 million bytes in April of 1977. The State's monthly lease rate will decrease by approximately $2,000 per month as a result of these changes.

Because of indications that the memory capacity of the 370/135 (480K) is insufficient to satisfy the needs of current and potential Users while DOT is converting from Disk Operating System (DOS) to full Operating System (OS) operation the memory capacity of the 370/138 (512K) will also be insufficient. Preliminary investigations utilizing hardware and software monitors indicate that another 512K bytes (the smallest increase possible) needs to be added to the 138. Analysis of the memory requirements is continuing and a recommendation will be made to the Computer Services Advisory Board and the Commissioner of Finance and Administration during the first three months of 1977.

The 370/138 will be able to accomodate the additional telecommunications equipment needed for growth in existing systems and the addition of the VTI System. If further need does develop, then shared controllers between the Honeywell and IBM computers will be investigated.

STAFFING PLANS

A. Systems and Programming
The Systems and Programming Section has provided and will continue to provide services to small and medium sized agencies without data processing staffs, and assistance to larger agencies on major data processing projects. This Section has also provided a reasonable alternative to consultants for major data processing projects. The Vocational Technical Institute Information System, Bureau of Taxation System Review and the Downeast Weekly Lottery Game are examples of data processing projects in which the State Agencies reduced expenses by using Central Computer Services' in-house expertise rather than hiring consultants. The number of smaller agencies depending on the Systems and Programming Section for services will continue to grow during this fiscal year and through the next two years. Some potential data processing Users that have already indicated an interest are the Public Utilities Commission, the State Court Administration, Business Regulation, Health Manpower Planning, and the Bureau of Purchases. Some large projects will continue through the biennium such as the Personnel Information System, Automatic Posting of Retirement Contributions, Taxation System Enhancements and Public Safety automation.

STAFFING PLANS

A. Systems and Programming - Cont'd.

This section will continue to provide maintenance for data processing systems of current customers such as Alcoholic Beverages, Watercraft, Snowmobile, Legislature, Lottery, Executive and Budget. The utilization of this section as an alternative to private consultants will continue to expand and, in fact, we will currently prepare proposals for any agency considering private vendors for data processing services.

The Systems and Programming Staff will add one Analyst/Programmer I, one Analyst/Programmer III, one Programmer and one Programmer Aide in Fiscal Year 1978. It will also add one Analyst/Programmer I and one Analyst/Programmer III in Fiscal Year 1979. This growth is based on our knowledge of projected data processing needs over this period, but we will be prepared to either increase or decrease the size of the staff depending on actual events during the period.

B. Administration

The Computer Services Advisory Board has recommended that, to properly fulfill the intent of the Legislature in creating this Bureau, we provide analysis services to agencies that do not have funds appropriated for data processing. This service would be in the form of reviews of agency work and feasibility studies to determine if data processing would be beneficial to them. If a data processing approach proves to be cost beneficial for any of these agencies we then would assist them in preparing budget requests for such services. The Commissioner of Finance and Administration has given the Bureau permission to pursue this approach. An Analyst/Programmer II position has been created and will be filled in March of 1977 to provide the additional professional help to proceed.

Data processing training is another area of responsibility defined by law. To provide this acutely needed function Central Computer Services will create a Training Specialist classification after the review of needs has been completed and a planned approach has been formulated. This position will be filled in Fiscal Year 1978.

The Administrative Staff will need additional clerical help to assist the Training, Systems and Programming and Agency Review Functions. Therefore, a Clerk-Typist II position will be created in Fiscal Year 1978.

C. Computer Operations

The anticipated expansion of work by agencies currently using data processing as a tool and the agencies beginning to use this tool for the first time will cause steady increases in the amount of work accomplished on the Honeywell Computer and require more utilization of the resources available on the IBM computer.

Because the two computers are now residing in the same room the operations staff can effectively cover the anticipated growth on both machines with minimal expansion. Only three new positions are planned for the fiscal biennium. Reclassifications of some positions will take place to more accurately define the responsibilities of the individuals involved once they have achieved appropriate training and experience. One position will be added to the Systems Software Staff that supports the two computers. This expansion in

C. Computer Operations - Cont'd.

staff will provide the needed high level technical support to make all computers run more efficiently, implement software changes and assist and train computer technicians in other State agencies. The Data Entry Staff will increase from four positions to six to provide the anticipated growth in data entry services and to continue replacing very small data entry staffs in other agencies.

These projected increases in Personnel are predicated on planned growth by User Agencies and growth patterns of previous years. If projections are incorrect, then the staffing levels will be adjusted accordingly.

Approaches to Further Centralization

Since its creation, Central Computer Services has remained cognizant of its duty to affect the centralization and consolidation of data processing equipment when in the best interest of the State. The Department of Mental Health and Corrections no longer has a data entry staff or equipment because those responsibilities have been assumed by Central Computer Services. The physical relocation of the IBM computer to Central Computer Services' centralized facility is a major example of the progress made. The centralization of this computer provides all User agencies with more computer power and technical flexibility in approaches to automation that will benefit the State of Maine for many years. Consolidation of this computer was made possible by the conscientious efforts and assistance of dedicated Data Processing and Administrative personnel in the Department of Transportation. The Bureaus of Accounts and Control, Taxation and Central Computer Services are currently investigating the feasibility of combined utilization of minicomputer-based Data Entry equipment. A report will be made in March of 1977, and if the cooperative approach to utilization of one automatic machine proves cost beneficial, installation of the equipment will probably take place during fiscal 1978.

The computer installation in the Employment Security Division of Manpower Affairs must, by Federal law, be advertised for competitive bid before July of 1978. Central Computer Services feels that it will be in the best interest of the State, the Federal Government and the Department of Manpower Affairs if the central facility is upgraded and utilized to process Employment Security's data processing work. Therefore, we will submit a Plan of Service and bid at the same time competitive procurement takes place. Preliminary meetings and investigations have taken place and Central Computer Services will continue work on the plan and be prepared to report by July of 1977.

This report is the result of our assignment to prepare a plan for a computer center for Maine State Government. The project had its beginning in May of 1967 when Governor Curtis issued an executive order declaring his intention to establish such a center and appointing an interdepartmental Task Force on Data Processing to begin formulating plans for a central processing facility and a coordinated approach to computer-based information systems. Individual departments proceeded on their own initiative and with funds available to them to assess their needs and to plan the development of computer systems for their own uses during the summer and fall of 1967. Recognizing that central direction and support was needed to complete the task, the Governor asked the Commissioner of Finance & Administration to complete the survey of overall data processing needs of State Government and to recommend an appropriate plan. Subsequently, in the summer of 1968, the Commissioner of Finance and Administration engaged Systemation, Incorporated, to undertake the study with the following principal objectives:

- Survey data needs and resources of individual departments.

- Survey needs of State Government as a whole.

- Outline computer systems to meet the needs.

- Project equipment and staffing requirements and estimate operating costs for a central computer facility.

- Propose an implementation schedule and estimate implementation costs.

The purpose of promoting more widespread use of computer methods is simply to find means of conducting the State's business more efficiently, more rapidly, and at lower cost. Although the population of Maine has remained relatively stable over the past two decades, the volume of State Government paperwork has grown steadily as the volume of State business has increased and as the demands have increased for information with which to manage the burgeoning number of local, state, and federal programs in health, welfare, education, and economic development.

As a consequence, the number of year-round, permanent State employees has increased steadily:

As of June 30,	1958:	6,777
	1959:	6,921
	1960:	7,100
	1961:	7,346
	1962:	7,608
	1963:	7,785
	1964:	8,088

1965:	8,158
1966:	8,891
1967:	9,342
1968:	9,496

The State has sought to use more automatic means of obtaining needed information and processing the mounting clerical workload efficiently. Punched card or unit record equipment was first installed in 1932 in the Bureau of Accounts and Control of the Department of Finance and Administration. Over the years, the number of applications of this equipment was increased and more efficient equipment was installed. Unit record installations were set up in other departments, including Highway, Health and Welfare, Education, Motor Vehicles, Labor and Industry, State Police, and the Maine Employment Security Commission. Although computers made their first appearance in the early 1950's, Maine State Government did not install its first computer until 1961 when the Highway Department brought in an IBM 1620, a small, second-generation computer designed for scientific (as opposed to business) uses.

In 1962, because of its concern over the increasing cost of clerical operations, the growing investment in unit record equipment throughout State Government, and the possible introduction of computers, the 101st Legislature appropriated money to hire a consultant (Frank C. Brown and Company of New York) to survey clerical and data processing activities in Maine State Government. Major recommendations of this study were to centralize data processing activities in a new department and to spend substantial amounts of money on data processing. However, neither of these actions were taken in the years 1963-64 and 1964-65, as recommended. Instead, a go-slow approach was adopted.

In 1963, the State Controller, who was offering the use of his Bureau's facilities to other departments, as well as using them for Accounts and Control functions, conducted a study of equipment needs in his Bureau, using Systemation, Incorporated, as consultants. As a result of the study and with approval of the Legislature, the Controller installed the first computer designed for business uses in State Government, a second-generation IBM 1440 computer employing disk storage. About this same time, the Highway Department installed a Univac 1004, a machine that is neither purely unit record equipment nor computer but a hybrid, and in June 1966 found it necessary to install a second IBM 1620 computer.

In 1966, following extensive computer feasibility studies in the Departments of Education and Health & Welfare, the State Controller and the Commissioners of Education and Health & Welfare jointly sponsored a study of the computer processing requirements. The study, performed by Systemation, Incorporated, revealed that the needs of the three departments could be satisfied most satisfactorily with a central computer, as opposed to separate computers in each department. The major reasons were better price/performance and more powerful capabilities of a larger computer. Subsequently, in 1967, a third-generation computer, an IBM 360/30, with greater printing capacity, was installed in the Bureau of Accounts and Control as a replacement for the 1440 in order to serve the three departments.

The Maine Employment Security Commission also installed a third-generation computer, an RCA Spectra 70/25, in 1967. The Commission, long a user of data processing methods, thereby continued its independent course in this area, principally because of its separate federal government funding arrangements which paid for the new computer.

A third-generation IBM 1130 was installed in January 1968 in the Highway Department as a replacement for one of the second-generation IBM 1620 computers, and an IBM 360, Model 25 was ordered for delivery in the fall of 1969 to replace the other 1620 computer and the Univac 1004 card processor.

In the latter part of 1967, the Motor Vehicles Division, with substantial assistance from the Federal Government, undertook the implementation of an ambitious computer system for driver records, utilizing remote terminals and on-line, direct-access methods. Here again, a feasibility analysis indicated that increasing the capability of and sharing the use of the computer in Accounts and Control would be far less expensive than installing a new computer in the Motor Vehicles Division. Consequently, the installation of an IBM 360/40 with increased disk storage capability was made in Accounts and Control in the fall of 1968, and a large mass-storage device is scheduled to be added in January of 1969.

Because of the initiative of the State Controller and because of the cooperation and practical good sense shown by other department and agency heads, the State of Maine has moved in the direction of a shared central computer facility. Some progressive steps have also been taken toward the setting up of "integrated information systems" based on computer files which serve many users and eliminate much of the duplication found in individual department records.

Maine is finding, as other States are finding or have found, that the powerful, new third-generation computers which are capable of processing several programs simultaneously and serving multiple users, demand more thorough pre-planning, more skilled technical staff support, and greater investment in the software or systems and procedures. Furthermore, although the cost of computer processing has been continually lowered over the past 15 years (in terms of cost per operation), the total costs (equipment rental, personal services, and contractual services) expended by the State of Maine for data processing has steadily increased, amounting to approximately $1,300,000 for the current fiscal year. Therefore, although the present informal cooperation between departments on computer sharing has been amazingly effective, the establishing of more formal organizational and funding arrangements and procedures appears to be warranted at this time, if the use of computers is to be fostered and controlled properly. Not only are there economies to be achieved through centralized planning for equipment acquisition and sharing, but the existence of a central data processing facility appears to result in broader use of the equipment. A study of Automation in State Government, 1966-67, by the Council for State Governments and the Public Administration Service stated the following:

"There are strong indications that the range of applications in a given state is positively correlated with the existence of some centralized ADP service, whether it be a department within a senior agency or a separate agency. The five states with the widest range of applications all have a state-wide director of data processing, although his functions vary widely from state to state. Conversely, the five states with the narrowest range of applications--10 or fewer--have no centralized ADP service, although one of them, Missouri, is in the process of organizing one."

Appendix B.

EDP Personnel and Major Applications Systems (By Agency)

The following pages list - in alphabetical order by agency name - the following information:

a.) *By classification title, the number of positions allocated to data processing in each agency on or about December 1, 1976.*

b.) *By application area, summary information on the major applications existing in each agency as reported in July of 1976.*

Accounts and Control, Bureau of; Department of Finance and Administration

A. *Personnel.*

Title	No. of Positions (Dec. '76)
Chief of Data Processing & Systems	1
Analyst/Programmer I	2
Computer Programmer	2
Data Entry Specialist	8
Data Entry Operator II	3

B. *Major Applications Systems.*

Application Area	Date of Completion or Major Revision	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
		CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Appropriation Acct'g.	6/76	H-6060	24K	x	x	x	x	x	x
Fund Accounting	6/76	"	"	x	x	x	x	x	x
Check Reconciliation	6/75	"	30K	x	x	x			
Outstanding Orders	6/75	"	24K	x	x	x			
Vendor Payments	7/74	"	"	x	x	x			
Payroll	7/75	"	30K	x	x	x			

Alcoholic Beverages, Bureau of; Department of Finance and Administration

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
Data Entry Specialist	*1*

**Note: Systems and Programming Support is provided by Central Computer Services*

B. *Major Application Systems.*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Liquor Inv. and Accounting	*7/75*	*COBOL*	*H-6060*	*44K*	*x*	*x*	*x*		*x*	
Liquor Control	*12/12/70*	*"*	*"*	*32K*	*x*	*x*	*x*		*x*	

Budget, Bureau of; Department of Finance and Administration

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
N O N E	

**Note: Data Entry and Systems and Programming Support is provided by Central Computer Services.*

B. *Major Application Systems*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Request Form Preparation	*7/76*	*COBOL*	*H-6060*	*16K*	*x*	*x*	*x*		*x*	
Document Preparation	*12/76*	"	"	*24K*	*x*	*x*	*x*		*x*	
Projections-Personal Service	*7/76*	"	"	*16K*	*x*	*x*	*x*		*x*	

Central Computer Services, Bureau of; Department of Finance and Administration

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Director	*1*
Deputy Director	*1*
Systems and Programming Manager	*1*
Computer Operations Manager	*1*
Systems Software Specialist II	*1*
" " " I	*2*
Analyst/Programmer II	*7*
" " I	*3*
Computer Programmer	*5*
Computer Programmer Aide	*2*
Sr. Computer Operations Supvsr.	*1*
Comp. Operations Supvsr.	*4*
Sr. Comp. Operator	*3*
Computer Operator	*7*
Computer Operator Aide	*5*
Data Control Librarian II	*1*
" " " I	*2*
" " Specialist	*1*
" Entry Supvsr.	*1*
" " Specialist	*2*
" " Operator II	*1*
Tab. Equip. Opr. II	*1*
Accountant I	*1*
Clerk/Typist I	*1*
Secretary	*1*
Stores Clerk	*1*

B. *Major Applications Systems. Central Computer Services develops and maintains application systems for other State agencies. Central Computer Services utilizes computerized tape library, service billing, and performance reporting systems, but, in general, does not develop major applications systems for internal use.*

Conservation, Department of

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
N O N E	

**Note:* *Data Entry and Systems and Programming Support are provided by Central Computer Services.*

B. *Major Applications Systems.*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Forest Protection	*1976*	*COBOL*	*H-6060*	*32K*	*x*		*x*			

Educational and Cultural Services, Department of

A. *Personnel*

Title	No. of Positions (Dec. '76)
Analyst/Programmer II	1
" " I	3
Computer Programmer	1
Data Entry Opr. II	1
" " " I	3
Clerk/Typist II	1
" " I	1

B. *Major Applications Systems*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Teacher Certification	9/30/75	COBOL	H-6060	30K	x	x	x		x	
School Lunches	"	"	"	45K	x	x	x		x	
Voc. School Aids	8/30/75	"	"	15K	x		x		x	
Edu. Staff Records	1/30/72	"	"	40K	x	x	x		x	
Facilities Records	6/30/76	"	"	20K	x		x		x	
School Aids	8/30/75	COBOL	IBM 360	100K	x	x	x	x	x	x

Environmental Protection, Department of

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Analyst/Programmer II	*1*
Computer Programmer	*1*
Data Entry Operator I	*1*

B. *Major Applications Systems.*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Water Pollution Monitoring	*3/30/76*	*COBOL*	*H-6060*	*25K*	*x*	*x*		*x*		*x*
Stream and Hydro Modeling	*9/30/75*	*FORTRAN*	*H-6060*	*35K*		*x*	*x*		*x*	
Solid Waste Disposal	*1/30/76*	*SPSS*	*IBM/370*	*20K*		*x*		*x*		*x*

Human Services, Department of

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Chief of Data Processing & Systems	*1*
Analyst/Programmer II	*8*
Analyst/Programmer I	*6*
Computer Programmer	*9*
Data Control Specialist	*1*
Data Control Clerk I	*1*
Data Entry Systems Manager	*1*
Data Entry Supervisor	*2*
Data Entry Specialist	*9*
Data Entry Opr. II	*7*
Data Entry Opr. I	*2*
Tab. Equip. Supvsr. II	*1*
Clerk/Typist II	*1*

B. *Major Applications Systems - see following page*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Central Persons Index, Welfare	1971	COBOL	H-6060	77K		x		x		x
Applications Assistance	1/76	"	"	"		x		x		x
Eligibility Determination	1/76	"	"	"		x		x		x
Grant Computation	1/76	"	"	"		x		x		x
Case Record Maintenance	1/76	"	"	"		x		x		x
Warrant Writing	1/76	"	"	"	x	x	x		x	
Eligibility Determination	1973	"	"	60K	x	x	x		x	
Vendor Payment	1973	"	"	"	x	x	x		x	
Utilization and Surveillance	1973	"	"	"	x	x	x		x	
Federal Reports	7/76	"	"	40K	x	x	x		x	
Case Load Management	7/76	"	"	50K		x	x	x	x	
Administrative	7/76	"	"	50K		x	x	x	x	
Food Stamps	1973	"	"	77K		x	x	x		x
Vocational Rehabilitation	1973	"	"	"		x	x	x		x
Nursing Home Registration	7/76	"	"	"		x	x	x		x
Vital Statistics	1976	"	"	30K	x		x		x	
Licensing and Inspection Public Health	1976	"	"	"	x		x		x	
Registries (occup. & disease)	1976	"	"	"	x		x			
Maternal and child care	1976	"	"	"	x		x		x	
Clinical laboratory, Public Health	1976	"	"	"	x		x			

Inland Fisheries and Wildlife, Department of

A. *Personnel**

Title	No. of Positions (Dec. '76)
Biologist/Computer Prog. I	1
Data Entry Specialist	1
Data Entry Opr. II	2
Clerk III	1
Clerk I	3

*Note: Systems and programming support for the Publications, Snowmobile, and Watercraft applications are provided by Central Computer Services.

B. *Major Applications Systems*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Watercraft Licensing	4/5/74	COBOL	H-6060	32K	x	x	x	x	x	x
Snowmobile Licensing	10/30/75	"	"	"	x	x	x		x	
Fish & Wildlife Publications	1975	"	"	"	x	x	x			
MIDAS (Info.Storage)	11/73	"	"	21K	x		x		x	

Examples of major MIDAS file groups

1. *Environmental Data*
2. *Fish & Wildlife Use Surveys*
3. *Fish & Wildlife Habitat*
4. *Fish & Wildlife Census*
5. *Fish & Wildlife Regulations*
6. *Personnel Activity Reporting*

Legislature

A. *Personnel**

N O N E

**Note: Systems and programming and data entry support is provided by Central Computer Services.*

B. *Major Applications Systems.*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Bill Status	4/76	COBOL	H-6060	35K	x	x		x		x

Lottery Commission

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
Data Control Clerk II	*1*
Data Entry Specialist	*1*
Data Entry Opr. I	*1*

**Note: Systems and programming support is provided by Central Computer Services and consultants.*

B. *Major Application Systems.*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Gaming Control	*7/75*	*COBOL*	*H-6060*	*44K*	*x*	*x*	*x*		*x*	

Maine Law Enforcement Planning and Assistance Agency

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
Analyst/Programmer II (uncl)	*1*
" " I (")	*1*

**Data Entry support is provided by Central Computer Services and Systems and Programming support has been obtained from both outside consultants, and Central Computer Services.*

B. *Major Application Systems.*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Uniform Crime Rptg.	*12/76*	*COBOL*	*H-6060*	*32K*	*x*	*x*	*x*			
Grants Mgmt. Info. Sys.		*"*	*"*	*"*	*x*	*x*	*x*			
Standards & Goals Mailing	*2/76*	*"*	*"*	*20K*	*x*	*x*	*x*			
Agency Mailing	*1974*	*"*	*"*	*"*	*x*	*x*	*x*			

Manpower Affairs, Department of

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Chief of Data Processing & Systems	*1*
Analyst/Programmer II	*7*
" " I	*5*
Sr. Computer Programmer	*1*
Computer Programmer	*1*
Computer Operations Supervisor	*2*
Sr. Computer Operator	*1*
Computer Operator	*2*
Computer Operator Aide	*3*
Data Control Librarian II	*1*
Data Entry Supervisor	*1*
Data Entry Specialist	*7*
Data Entry Opr. II	*5*
Data Entry Opr. I	*4*
Clerk III	*1*

B. *Major Applications Systems - see following page.*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Unemployment Insurance		COBOL	Univac Series 70/2		x	x	x		x	
Employer Accounting & Tax		"	"	65K	x	x	x			
Continuous Wage and Benefits History (CWBH)		"	"	48K	x	x	x		x	
Claimant Accounting		"	"	100K	x	x	x			
ES203 & ES204		"	"		x	x	x			
Emp. Sec. Automated Reporting System		"	"	85K	x	x	x			
Computer-assisted job placement		"	"	"	x	x	x			
Administrative		"	"		x	x	x			
Staff Maintenance		"	"	25K	x	x	x			
Purchasing, Property Control, and Cost Accounting		"	"	80K	x	x	x			
Occup. Safety Health Adm.		"	"	90K	x	x	x			
Monetary Deter. & Dependency		"	"		x	x	x		x	
POSARS		"	"		x	x	x			
Fraud		"	"		x	x	x			
OES		"	"		x	x	x			
Manpower Delivery System (MDS)		"	"		x	x	x			
Common Intake		"	"		x	x	x			
Basic Support System (BSS)		"	"		x	x	x			

Mental Health and Corrections, Department of

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
Analyst/Programmer I	*1*
Computer Programmer	*2*

**Data Entry support is provided by Central Computer Services.*

B. *Major Applications Systems*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Caseload Management	*7/73*	*COBOL*	*H-6060*	*25K*	*x*	*x*	*x*		*x*	
Budget Control	*1974*	*"*	*"*	*"*		*x*		*x*		*x*
Patient Info. Processing Sys.	*3/75*	*FORTRAN*	*"*	*35K*		*x*		*x*	*x*	*x*
Capital Assets Accounting	*7/69*	*COBOL*	*"*	*20K*	*x*	*x*	*x*		*x*	

Motor Vehicle Division; Secretary of State

A. *Personnel*

Title	No. of Positions (Dec. '76)
Analyst/Programmer II	1
" " I	1
Computer Programmer	1
Data Control Clerk I	1
Data Entry Sys. Mgr.	1
Data Entry Specialist	6
" " Opr. II	7
" " " I	4

B. *Major Application Systems.*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Driver Licensing	4/73	COBOL	H-6060	32K		x	x	x	x	x
Vehicle Registration	1/75	"	"	"		x	x	x	x	x
Vehicle Title	8/74	"	"	"		x	x	x	x	x
Fin. Resp. Driver History	4/73	"	"	"		x	x	x	x	x

Nursing, Maine State Board of

A. *Personnel**

N O N E

**Data Entry support is provided by Human Services and Systems and Programming support by Central Computer Services.*

B. *Major Applications Systems*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required CPU	Hardware Required Core Size	Storage Medium Tape	Storage Medium Disk	Mode of Operation Batch	Mode of Operation On-Line	Inquiry Capability Batch	Inquiry Capability On-Line
Professional Licensing Nursing	4/15/75	COBOL	H-6060	28K	x		x		x	

Personnel, Department of

A. *Personnel**

N O N E

**Data Entry and Systems and Programming support are provided by Central Computer Services*

B. *Major Applications Systems*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Position Control	7/75	COBOL	H-6060	30K	x	x	x		x	

Public Safety, Department of

A. *Personnel*

Title	No. of Positions (Dec. '76)
Data Entry Supervisor	1
" " Operator II	3

*Systems and Programming support is provided by Central Computer Services.

B. *Major Applications Systems*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
Accident	1/76	COBOL	H-6060	20K	x	x	x		x	
Field Contact Reports	"	"	"	"	x	x	x		x	
Uniform Crime Reports	7/76	"	"	32K	x		x			
Citation Processing	1/76	"	"	20K	x	x	x		x	
Vehicle Cost	12/76	"	"	20K		x	x			

Retirement System

A. *Personnel**

Title	*No. of Positions (Dec. '76)*
Data Entry Specialist	*1*

**Systems and Programming support is provided by Central Computer Services*

B. *Major Applications Systems*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Check Reconciliation	*5/76*	*COBOL*	*H-6060*	*26K*	*x*	*x*	*x*		*x*	
Actuarial Studies	*2/76*	*"*	*"*	*35K*	*x*	*x*	*x*		*x*	

State Planning Office

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Analyst/Programmer II (uncl)	*1*
Data Entry Spec. (uncl)	*1*

B. *Major Applications Systems*

Application Area	*Date of Completion or Major Revision*	*Primary Language*	*Hardware Required*		*Storage Medium*		*Mode of Operation*		*Inquiry Capability*	
			CPU	*Core Size*	*Tape*	*Disk*	*Batch*	*On-Line*	*Batch*	*On-Line*
Resources Inventory & Analysis - MIDAS	*11/73*	*COBOL*	*H-6060*	*21K*	*x*		*x*		*x*	

Taxation, Bureau of; Department of Finance and Administration

A. *Personnel*

Title	No. of Positions (Dec. '76)
Analyst/Programmer III	1
" " II	2
" " I	1
Computer Programmer	1
Data Entry Supervisor	1
" " Specialist	1
" " Opr. II	6
" " " I	1
" Comm. Terminal Opr.	1
" Entry Opr. II (seasonal)	2
" " " I (")	4
" Comm. Terminal Opr. (seasonal)	2

B. *Major Applications Systems - see following page*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required		Storage Medium		Mode of Operation		Inquiry Capability	
			CPU	Core Size	Tape	Disk	Batch	On-Line	Batch	On-Line
INCOME TAX										
Arith. Audit	*1/74*	*COBOL*	*H-6060*	*30K*		x		x		x
Selective Audit	"	"	"	"	x	x	x			x
Compare IRS Tapes	*10/75*	"	"	"	x	x	x		x	
Balance to Employer Rpts.	*1/74*	"	"	"	x	x	x			x
Employer Accounting	*1/74*	"	"	"	x	x		x		x
Fund Accounting	*1/74*	"	"	"	x	x		x		x
Refunds	*1/74*	"	"	"	x	x	x			x
Delinquent Notices	*1/74*	"	"	"	x	x	x			x
Declaration Accounting	*1/74*	"	"	"	x	x	x			x
Accounts Receivable	*1/74*	"	"	"	x	x	x			x
Motor Fuel	*3/76*	"	"	"	x	x	x			x

Transportation, Department of

A. *Personnel*

Title	*No. of Positions (Dec. '76)*
Civil Engineer IV	*1*
" " III	*1*
" " II	*2*
Engineering Tech. V	*1*
Analyst/Programmer II	*1*
" " I	*2*
Computer Programmer III	*1*
Computer Programmer	*2*
Systems Software Spec. I	*1*
Sr. Computer Opr.	*1*
Computer Operator	*3*
" " Aide	*1*
Data Control Clerk II	*2*
Account Clerk II	*1*
" " I	*1*
Data Entry Specialist	*6*
" " Opr. II	*2*

B. *Major Applications Systems - see following page*

Application Area	Date of Completion or Major Revision	Primary Language	Hardware Required: CPU	Hardware Required: Core Size	Storage Medium: Tape	Storage Medium: Disk	Mode of Operation: Batch	Mode of Operation: On-Line	Inquiry Capability: Batch	Inquiry Capability: On-Line
PLANNING			370/							
Origin & Destination		COBOL	135	500K	x	x	x			
Accident Records	1974	PL/I	"	"		x	x		x	
DESIGN										
Roadway Design		FORTRAN	1130	16K		x	x		x	
Bridge Design		"	"	"		x	x		x	
CONSTRUCTION										
Bid Letting		"	"	"		x	x		x	
Contract Payments		PL/I	370/ 135	500K		x	x		x	
ADMINISTRATION & MAINTENANCE										
Concurrent Audit		PL/I	"	"	x	x	x		x	
Crew Personnel-Payroll		"	"		x	x	x		x	
Fleet Management		"	"		x	x	x		x	